Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Math: \_\_\_\_\_\_

**Ratios Study Guide – Quiz 1**

\*\* *Explain your answer* means to explain your thinking with sentences or a visual. If the question asks you to explain your answer, you will not earn full credit without these things. Remember to also clearly answer the question being asked. (For example, write *The chef will need 15 cups of water* instead of just *15.*)

1. Daisy is baking cookies to bring to school and share with her friends on her birthday. The recipe requires 2 cups of flour for every ½ cup of vegetable oil. To have enough cookies for all of her friends, Daisy determined that she would need 12 cups of flour. If her dad bought 4 cups of vegetable oil, does Daisy have enough vegetable oil to make the cookies? Explain your answer.
2. Nyk is training for a duathlon, which is a race that consists of running and cycling. The cycling leg is longer than the running leg of the race, so while Nyk trains, he rides his bike more than he runs. During training, Nyk runs 4 miles for every 14 miles he rides his bike.
   1. Write the ratio associated with this problem.

The ratio of \_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

* 1. Rewrite this ratio in its simplest version (sometimes called the value of the ratio).
  2. When Nyk completed all of his training for the duathlon, the ratio of the total number of miles he ran to total number of miles he cycled was 80:280. Is this consistent with Nyk’s training schedule? In other words, is the ratio of his training schedule equivalent to this total ratio? Explain why or why not?
  3. In one training session, Nyk ran 4 miles and cycled 7 miles. Did this training session represent an equivalent ratio of the distance he ran to the distance he cycled? Explain why or why not.

1. Circle ALL of the ratios that are equivalent to 7 : 15.
   1. 21 : 45
   2. 14 : 45
   3. 3 : 5
   4. 63 : 135
2. Gabby bought 8 gallons of purple paint to paint her bedroom. Unfortunately, when she started painting, Gabby decided that the paint was too dark for her room, so she wanted to make it lighter. The store manager would not let Gabby return the paint, but did inform her that if she used gallon of white paint mixed with 2 gallons of purple paint, she would get the shade of purple she desired. If Gabby decides to do this, how many gallons of white paint would she have to buy to lighten the 8 gallons of purple paint?
3. The producer of a news station posted an article about the high school basketball team’s championship game on the new website. The website had 500 views after four hours.
   1. Create a table or double number line to show how many views the website would have had after the first, second, and third hours if the website receives views at the same rate.
   2. How many views would the website receive after 5 hours? Explain your answer.
   3. Now predict how many views the website would have after 12 hours. Explain your answer.
4. Kiran solves three math problems in four minutes.
   1. Use this information to complete the table below.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Number of Questions | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| Number of Minutes |  |  |  |  |  |  |  |  |  |  |

* 1. Kiran has soccer practice on Thursday evening. He has a half hour before practice to work on his math homework and talk with his friends. He has 21 math problems for homework, and he wants to complete them before talking with his friends. How long will it take Kiran to complete his math homework?
  2. How many minutes will Kiran have left after completing his math homework to talk with his friends?

1. Dylan rode his bike 6 miles in 18 minutes at a constant speed. Complete the table to show the time it took him to travel different distances at this speed.

|  |  |
| --- | --- |
| **distance traveled (miles)** | **elapsed time (minutes)** |
| 6 | 18 |
| 1 |  |
|  | 1 |